/20 cont./

793 *795 The Caliph-general seldom leaves Touba. He sends representatives to the chief town or to the circles to visit his talibés or to deal with administrative questions in the offices. If he goes away, he rarely goes far; in general, he goes as far as his groundnut plantations located a few kilometers from Touba. There he calls on the talibés, who, according to Murid doctrine, work for him while he himself prays for them and in their place. These plantations give him the millet necessary for feeding the people who live with him in Touba, and groundnuts whose sale will assure him of sizable personal revenues.

Immediately after Falilou M'Backé at the head of the brotherhood come his brother, Bassirou M'Backé, and his nephew, Cheikh M'Backé, about whom we have already said a few words just above. Since 1947 these two Sérignes have been, respectively, Vice-President and Secretary of the Murid Administrative Council which Falilou created to manage the funds intended for the construction of the mosque, and of which he is President.

Bassirou is regarded in principle as the "dauphin" of the brotherhood, the designated and legitimate successor to Falilou. He is very different from his brother. Tall, thin, with a long face and regular features, Bassirou has a great deal of presence and fine bearing. He studied at Boutilimit during the lifetime of Cheikh Sidiya Baba. Very cultivated and well-read, his conversation is as interesting as it is agreeable.

In spite of the important position that he occupies at the head of the brotherhood, he does not appear to maintain either excellent relations or very frequent contacts with his brother.

In 1953 he came to settle in Diourbel after definitely leaving /21/ Boulel in the subdivision of Kaffrine, where he had been making tests of mechanical and motorized cultivation in the Bloc Expérimental de l'Arachide /Experimental Bloc for Groundnuts/ in co-operation with the Service de l'Agriculture and thanks to the manpower of his talibés. [654]

He is now imam of the Diourbel mosque, whose restoration he would like to undertake. It is actually a very beautiful [346]

/23 cont./

793 *795 way to a frank and full collaboration between the representatives of authority and the Murid leaders of all ranks.

*795 631 793 The effective and efficient discipline which prevails in the brotherhood permits exercising over those under its jurisdiction a kind of indirect administration, always easier to achieve than direct administration. This formula was used especially from 1940 to 1946 when it was a question of producing the utmost quantities of groundnuts. This collaboration between the Murid marabouts and the Governors did away with many reticences and prejudices and had the result of increasing the prestige and influence of the former, not only within the brotherhood, but also in all of Senegal.

793 *795 652 631 Today this collaboration perhaps has a few more nuances, but it remains important. Relations between the heads of administrative divisions and the Murid marabouts are always very polite and very close; the marabouts receive sizable economic and financial aid from the Administration. The Sociétés de [654] Prévoyance /Welfare Societies/ advance them large tonnages of groundnut seed. Then again, short-term and long-term agricultural credits are granted to them, either for putting into good condition each of the agricultural fields (wintering credits) or to allow them to modernize or mechanize their cultivation; finally, administrative subsidies are also given for the construction of the Mosque of Touba. On the other hand, the marabouts preach to their talibés respect for established authority /24/ and call upon them to do their duty vis-à-vis Administration, notably in whatever concerns the payment of taxes and the reimbursements for the seed to the Sociétés de Prévoyance.

*795 162 The Murids thus have an important place in the life of Senegal. Their number is estimated at 400,000, which represents a quarter of the Islamized population of the territory. One quarter of the brotherhood is established in the circle of Diourbel and two other quarters are distributed in the regions adjacent to the circles of Kaolack, Thiés, Louga, and Linguère, that is to say, the Murids have remained closely grouped around [793] their land of origin, Baol. They live there for the most part in

/26 cont./

793 will have their talibés vote in favor of their parties. When one
*795 knows what the influence of the marabouts and the discipline
666 of the brotherhood are, one can easily imagine what a formidable ace such an alliance can be for a party. But to be allied with one party is necessarily to be the adversary of the other (or others). If Murid fanaticism (and organization) is thrown into the electoral struggles, it can be the cause of serious troubles. Certainly these troubles would not compromise the loyalty of the brotherhood vis-à-vis the mother country, but they would create serious difficulties for the local administration and the government of the territory.

793 In other respects, deeper reasons can provoke lively op-
*795 position or even struggles between the great Murid leaders and
[665] certain politicians (or certain parties). Thus some Senegalese political personalities are beginning to criticize the way the marabouts act against their talibés. One of them has gone so far as to utter the words "servitude" and "feudalism" in speaking of Muridism /27/ to a high European official. It is certain that a virulent campaign could be made on this theme against the Murid leaders and especially against those whose ostentatious luxury can excite jealousy.

For their part, the Murid marabouts try to maintain their authority and their influence over their disciples and, in that way, over the whole country. They will be opposed to any social or political innovation which will give more power to the masses, and which, by so doing, will risk compromising their authority, counterbalancing it, or even combatting it.
[654] They were thus hostile in 1953 to the transformation of the Société de Prévoyance of Baol into the Société Mutuelle de Production Rurale, on the one hand, because they thought that authority should not be entrusted to the people, and, on the other hand, because they feared that a S. M. P. R. presided over by an African (as was happening already at the time in the circle of Thiès) might be less favorable toward them than the traditional S. P. completely in the hands of the Administration.

5: Crowder J-5 (1955-1961) 1962
MS37 Senegal MS37

433 668 [491] the Government is trying to do is take out of its hands the control of the basic economy, such as the ground-nut crop, and to ensure that the maximum benefit accrues to Senegal from overseas investment.

The distinguishing feature of the plan is its reliance not on *investissement humain* on Chinese lines, a method which tends to be favoured by the Guinea and Mali Governments, but on *animation rural*. It is believed that compulsory forced [466] labour is not satisfactory to the people who are undertaking it, even if it is ostensibly in their own interests, first because it is compulsory, and secondly because it can suffer from excessive planning by the centre, so that the people may be 'investing' their labour in things which in the first place they do not want, and which in the second place fail, as certain agricultural schemes have done in Russia and China, as a result of overcentralised planning.

433 668 ●659 Basically *animation* is what we would call 'community development', but it is to be operated in the context of the general plan for the Senegal, touching on education and medical services as well as economic development. The idea is that people in villages should be asked what they want: a new road; a new dispensary etc. It will then be explained to them that such things have not been achieved up till now through lack of funds but that the Government is prepared to put its services at the disposal of the villagers to build a road or some such if the villagers are prepared to provide labour. The object then is to find out what villag- [496] ers really want and to stimulate them into wanting them enough to supply labour for them. In any chosen area, then, a member of the Ministry of Planning and Development (Animation Section) will go into the village and enlist the people's co-operation in selecting an intelligent man who is sufficiently respected both by the traditionalists and by the youth to be able to put over these new ideas of community development. He is then sent on an 'animation course' where he is taught improved farming and other methods and is (it is hoped) inspired with the need for

5: Crowder J-5 (1955-1961) 1962
MS37 Senegal MS37

progress. This he then transmits to the village, and in Casamance *animation* has worked to the extent of building a thirty-five kilometre road which cut the journey between two important villages by nearly fifty kilometres. In the Vallée du Fleuve, people who never grew rice before have now quadrupled their incomes by producing rice under a rural animation scheme.

All this President Dia hopes will raise the standard of living of each man by 3.5 per cent each year, doubling it by the fourth four year plan in 1975.

The plan is an ambitious one, an attempt to create a new Senegal synthesising the best of Africa and Europe. If it works, and the political future of both Senghor and Dia may well depend on this, then Senegal may become a pilot nation for Africa both economically and culturally. Senegal will then be in a sense a justification for the French assimilation policy, for although it failed in its attempts to assimilate the Senegalese both culturally and politically it has left profound marks on Senegalese society. And even if the experience of assimilation in Senegal has demonstrated the immense difficulties not only of one group trying to assimilate the other to its own standards, but of even getting the assimilating group to accept the other group as political and cultural equals, the end result may be the production of an African society which, whilst maintaining its own national identity, may prove a bridge between Africa and Europe and their two cultures.

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244 654

2. Experiences with mechanized cultivation. The experiences with mechanized cultivation proceeded from the arrangements of the law of 30 April 1946 on the first plan for "social and economic development of the oversea territories."

a) The first experience was that of the "bloc de l'arachide /bloc of the groundnut/." In 1947 the "Bloc de l'arachide" was created at Boulel, 21 kilometers north of Kaffrine, in the region of new lands. It had at its disposal 15,000 hectares of bush in a single holding and was endowed with powerful equipment. A labor force of 360 Murids, directed by 160 technicians, proceeded with the clearing, which in 1954 reached about 3,000 hectares. The aims of the enterprise are multiple. It is a matter of: 1. testing the equipment to be used in the preparation of the soil plowing, [795] seeding, weeding, and harvesting; 2. initiating the Murid labor force in the handling of mechanical machines; 3. procuring contrivances for certain jobs, such as decortication for the sowing, deherbaging before the harvest; 4. instituting methods of cultivation that can give the highest yields while protecting the soil.

The practical results have been rather mediocre. The expenses are very high, and amortization of the equipment [795] is scarcely possible. Moreover, the Murid colonists have adapted themselves poorly. In 1953 the latter were eliminated, and in 1955 the Bloc became the "Secteur expérimental de modernisation agricole" (S.E.M.A.) /Experimental Section for Agricultural Modernization/. Its activities were henceforth to be divided /11/ into three sections: a management section which supervises the clearing; an experimental section determining the most suitable techniques of cultivation and instructing the labor force; a section of exploitation, which applies the results of experimentation. The S.E.M.A. "admitted" 155 families for its work. It furnishes the lands prepared by machine, assures certain methods, loans food and seed without interest. Those admitted must take care of the complementary

/11 cont./

244 654 tasks by hand; they promise to respect the rotations prescribed by the experimental section.

b) The experience of the C. G. O. T. in Casamance began in 1948. Within the framework of the first plan, the Compagnie générale des oléagineux tropicaux /General Company of Tropical Oily Substances/ acquired vast areas of land in the region of Séfa, upstream from Sedhiou. Powerful equipment permitted this society of mixed economy to clear 4,000 hectares of woodland. At great expense the company [177] recruited some European technicians and local labor receiving wages higher than the average. The experience of total mechanization met very grave difficulties: clearing woodland is very ticklish, because carapaces are found at a shallow depth, the equipment wears out very quickly, and the administrative [433] expenses are very high; and then, when yields of 2,000 kilograms of groundnuts per hectare are anticipated, only 1,200 are obtained. The company had to modify its policy. The lands were divided among the "colonists," who promised to respect a millet or rice-groundnut rotation. The company cultivated the rice mechanically and kept the harvest. It proceeded to the more difficult tasks in connection with the groundnuts and collected in exchange 450 kilograms of shells per hectare thus cultivated. The millet went to the colonists.

795 244 c) The Murid chiefs of the region of Djourbel also had an experience with mechanization. In fact some of them, enriched by the "gifts" from the faithful, acquired equipment and in the new lands undertook mechanized cultivation of the groundnut in imitation of the example of Boulel. This system, without considering the dangers of the deterioration of the soil, seems dangerous from the social point of view, because it may strengthen the hold of the marabouts on the faithful, who become ordinary laborers.

244 In fact the experiences with mechanized cultivation have been dismissed because of a check on how much one could anticipate a generalized use of machinery. Nevertheless, [654] in sum, these modest attempts have not been as catastrophic

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244 654 as the one of the famous "groundnut scheme" of Tanganyika. Moreover, they have greatly contributed to the rationalization of the traditional techniques, also studied since 1924 at the experimental center of Bambey.

242 244 654 3. Improvements in the traditional methods of cultivation. The center of Bambey, administered by the Institut de recherche des huiles /12/ et oléagineux (I.R.H.O.) /Institute for Research on Oils and Oily Substances/ has made great efforts, especially since the end of the last war, in the selection of seed, instituting new methods of cultivation, and protection of the soil and the natural environment. These studies, together with the information furnished by Boulel and Séfa, have given very encouraging results.

1) The selection of seed. In traditional cultivation, the cultivator had to take the seed for the next season from his own harvest. This system was not very satisfactory: the seeds were often of mediocre quality, and they did not keep well; finally, very often the cultivator improvidently sold part of his stock before the end of trading and consequently had [426] to resort to usurious loans.

Since 1924 the center of Bambey has introduced seed selected for high yield, adapted to the natural conditions of each productive region. The adoption of creeping varieties for the dry regions of the north and of erect plants for the more moist and compact soils of the south assures an increase of 20% in yields. In 1935 26 metric tons of selected seed had been distributed; in 1951 this figure exceeded 35,000. Since then more than 90% of the seed used has been selected seed. The popularization and the distribution of these seeds are handled by the satellite centers, but above all by the sociétés de prévoyance /welfare societies/, which in 1958 became the Sociétés mutuelles de développement rural (S.M.D.R.). The distribution of the seed takes place between the closing of

/12 cont./

242 244 654 trade and the beginning of cultivation, at an interest of 20% on a base of about 100 kilograms per cultivator. Reimbursement takes place before the opening of trade, the greatness of the loss explaining the high rate of interest. The seeds stocked by these Mutuelles are disinfected, and samples are sent to Bambey for analysis.

2) Improvement in the techniques of cultivation. An agricultural calendar restricted to four months and demanding hard labor, very rudimentary implements, and the absence of fertilizers explain in large part the lack of efficiency of the traditional methods.

The example of Koutiala in the Sudan, where some plows were distributed, has shown that the use of this implement is often prohibited in a tropical environment. In contrast, Bambey and Boulel have successfully experimented with small equipment, hoes and drills /semoirs/, in mixed /attelée/cultivation. These light implements can greatly facilitate the work of the peasant. A great obstacle remains in the mediocrity of the [231] animal husbandry, inasmuch as it is divorced from agriculture. The donkeys throughout the country, the camels in the north, and the cattle entrusted to the Peul have never been regarded as draft animals. Today 20,000 light drills, sold on credit by the S.M.D.R., are in service. Up to now the hoes have not had the same success.

/13/ Mixed cultivation also has the advantage of linking cultivation and animal husbandry and of permitting the agriculturalist to utilize the manure, as the Sérère know how to do. The experiences of Bambey have shown that manuring is to be done for millet, but not for groundnuts, under penalty of harvesting many empty shells. The use of millet as green manure seems very beneficial on these unstable lands; the application of the fertilizer compound N.P.K., in the form of tablets to avoid rapid leaching, assures returns 30% higher. At the present time the Mutuelles are distributing about 6,000 metric tons of fertilizer a year. The high price of these imported products is an obstacle to their popularization, but some

/13 cont./

242 244 654 specialists envisage the utilization of the phosphates of Thiès.

3) Protection of the environment. The cultivation of the groundnut with the traditional techniques carries with it grave dangers for the soil. The abusive burning of brush denudes it and facilitates the erosive action of the dry harmattan which blows at the end of the dry season, from the month of March. The cultivation, most often improvident, leads to the rapid deterioration of very unstable soils. In the west the sands are impoverished, the salts are rising to the surface; in the east the lateritic cuirass appears at a shallow depth.

[313] [656] Legislation is intervening in defense of the natural environment; the decree of 4 July 1935 has interdicted the cutting of trees without authorization and has regulated the burning of brush and clearing. The most effective remedies, however, have been introduced by experimentation and recommended after a serious inventory of the soils. The example of Boulel has shown that bands of natural vegetation separating the clearings by passages perpendicular to the roads are an effective remedy against the action of the wind. The instability of the soils requires a strict system of rotation. Bambey and Boulel have proved that the sequence of millet, groundnuts, and fallowing is the best for preserving them. Fallowing for two years, recommended in the south, is insufficient in the north, where six years of rest seems to be indispensable. It is undeniable that for several years these crop rotations have been followed more and more, especially in the pilot sectors. Finally, the rearrangement of the map of the groundnut, amply primed, may have beneficial consequences. The circles /cercles, administrative districts/ bordering the Senegal River have practically abandoned this crop (Podor, Matam, etc.); northern Cayor, with a dry climate, impoverished soils, and a large population, has had a very marked decline in groundnuts to the profit of millet. In contrast, the new regions in Siné-Saloum and Tambacounda typically become groundnut-producers.

All of these innovations can actually bear fruit only with the acceptance of the peasant masses, which poses the problem

/14/
of training. This is one of the essential preoccupations of the present Sengalese government.

II. The "Trade" of Groundnuts

For a century the total volume of production has progressed in spectacular fashion. Actually, no statistics are available at the harvesting stage. Only the commercial figures are known with any accuracy. In any case they differ little from the total figure of production because local consumption seems to be of little importance. It is estimated that the average production of groundnuts from 1900 to 1904 was 123,000 metric tons. The more recent figures are the following: 1938-1939 campaign, 584,000 metric tons; 1942-1943 compaign, 183,000 metric tons; 1943-1944 campaign, 281,000 metric tons; 1957-1958 campaign, 808,000 metric tons; 1958-1959 campaign, 653,000 metric tons; 1959-1960 campaign, 720,000 metric tons.

Except for the period of the war, when the production of groundnuts, difficult to export, decreased to the profit of that of millet, progress was continuous, the 1957-1958 campaign being exceptionally favorable.

This production enters into the circuit of commercialization or "trade," which today is very strictly regulated.

1. The organization of "trade." The commercialization of the groundnut has replaced the "trade" in gum, slaves, and gold of the former colonial system. Although the term is still often used, its present context is very different from the acceptation of the era of the colonial pact. Trade is no longer, as Littré wished it to be, an exchange trade organized almost exclusively for the benefit of the European "trader"; today it is a commercial activity that is strictly regulated as to time and place and open only to approved intermediaries.

1.) The "campaign." "The campaign" is the period

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442 during which commercial operations in groundnuts are authorized.
●654 It is opened and closed each year by governmental decree. In
438 general it begins at the end of November or the beginning of December and closes at the end of April. The date of opening the campaign is set about two months after the beginning of the harvest, in order to avoid premature uprooting and to favor
438 the reimbursement of the seed advanced. This system never-
442 theless leads to some smuggling in the south, because the
[439] navétanes, anxious to return home, and the peasants, without any money, are tempted to sell in Gambia. At the time of the close, the transactions have been over for a long time, but this decision prevents the eventual sale /15/ of the seed distributed by the Mutuelles. In order to have the commodity brought in gradually and to avoid heavy transactions at the beginning of trade, operations are suspended from Friday to Monday. Nevertheless by the end of the month of January nearly all of the harvest has been negotiated.

366 2) The "points of trade." Since 1932 the operations of
442 selling must take place in the localities called points of trade
438 or "escales" located on the railroad or a road (Circular of 13 July 1932). These points of trade, which were 175 in number in 1935, now number more than 300. The limitation, in 1932, on the number of the points of trade was a response to the desire to moderate the rhythm of the selling and to avoid the proliferation of intermediaries. The recent creation of new escales is
[244] devoted to the conquest of new lands and is an attempt to avoid the abuses of cultivation on the lands near the former points of trade.

The accession of a locality to the rank of escale makes
[369] it legally an urban center, with the obligation of division into lots /lotissement/ and, for the merchants, permanent buildings. The campaign is a period of great animation for the escale.
442 The merchants or traders open their bank of purchase or "factory."
437 Traditionally, intermediaries, or "masters of language," conduct
[492] the producer to the factory. The groundnuts, transported by don-
[488] keys and in bags loaned by the trader, are weighed and emptied

22:Winterbotham et al. K-4 (no date) 1944 MS37 Senegal MS 37

4. CLIMATE

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Meteorological Stations mentioned in Text and Tables

	Latitude N.	Longitude W.	Altitude in feet
Podor	16° 35′	15° 02′	49
St. Louis	16° 01′	16° 30′	25
Matam	15° 38′	13° 13′	c. 70
Linguéré	15° 21′	15° 11′	c. 90
Bakel	14° 53′	12° 24′	c. 90
Thiès	14° 49′	16° 52′	207
Bambey	14° 40′	16° 25′	59
Dakar	14° 39′	17° 25′	105
Kaolack	14° 07′	16° 07′	17
Tambacounda	13° 45′	13° 39′	154
Kédougou	12° 33′	12° 10′	433
Ziguinchor	12° 32′	16° 21′	18

132 LIKE that of French Guinea, the colony's climatic year is divided into two distinct periods: a dry season from October to May, and a wet season from June to September. The former has north-east winds, generally clear skies, and a large range of temperature; and the latter, introduced by tornadoes, is more equable and has south-westerly winds, much cloud, and high humidity. Imposed upon this general pattern is the influence of the trade winds, which, in the dry season, keep the coast north of Dakar cooler and moister than the interior. The weeks immediately preceding the wet season are very oppressive.

Pressure (Fig. 58)

Senegal lies between the belts of northern tropical high pressure and equatorial low pressure. Although the movements of these two are very considerable during the course of a year, the local effect is negligible. Fig. 58 shows that surface pressure lies between 1012 mb. and 1014 mb. all the year, and that seasonal changes are concerned rather with the direction in which it decreases. The gradient in January is from north to south, but in July it is from south-west to north-east. Extreme variations are within 3 mb. on either side of the means.

TABLE I. *Mean Daily Pressure* (1000+*millibars*) *reduced to sea-level and corrected to 32° F. and latitude 45°*

Station	J.	F.	M.	A.	M.	J.	J.	A.	S.	O.	N.	D.	Year	Annual Range
St. Louis	13	12	11	11	10	12	13	11	12	12	12	13	12	3
Dakar	13	12	12	11	11	13	12	11	13	12	12	13	12	2
Kaolack	11	10	09	09	09	12	13	11	11	11	11	11	11	4
Ziguinchor	12	11	11	11	11	13	14	13	13	12	12	13	12	3

22:Winterbotham et al. K-4 (no date) 1944 MS37 Senegal MS37

132 hand, in September at Ziguinchor, for example, the midday mean rises as high as 48 miles, although at that time of year interference from cloud is greatest. Whatever the season, conditions are better at midday and in the evening than in the morning.

Temporary deterioration is caused by sand storms, fog, bush fires, and rain. The first occur during December and January over dunes such as those in Fouta and Ferlo. In them visibility may drop to less than 100 yards and the ensuing haze persists for several days over large areas. Fog is common before and after the rains and is to be expected over the southern estuaries at any time of the year when winds are light. It rarely extends above 500 feet or lasts after 9.00 a.m. Between February and April there is local interference from the smoke of bush fires, which rises 2,000 or 3,000 feet. In the wet season heavy rain naturally causes temporary deterioration. At this season also low cloud often blots out the tops of the spurs of Fouta Jalon.

Swell and Surf

133 Details of swell at Dakar are given in Appendix II, and they may be taken as typical of conditions along the whole of the coast of the colony. On beaches farther north there is slightly more north-westerly swell and on those to the south rather more from the south-west. Heavy seas are rare.

Surf, on the other hand, is everywhere heavy. On exposed beaches south of Cape Verde, for instance, rollers sometimes curl in 30 feet of water and break in a depth of 10 feet. Surf is especially dangerous at the mouths of estuaries when a strong ebb-tide is running.

Meteorological Services

•654 Dakar is the chief meteorological station in French West Africa, and St. Louis, Tambacounda, and Ziguinchor are also fully equipped for recording both surface and upper air conditions. Their reports [207] are included in the synoptic broadcasts from Dakar, which cover the whole of the west coast. Secondary stations are at Bambey, Kaolack, Linguéré, Podor, and Thiès, whose reports are also included. Twenty-six other places record rainfall.

5. VEGETATION

137 Most of the colony falls within two of the main vegetation zones. To the north is the thornland, while to the south the zone of grass-woodland has two subzones, the Sudan and the Guinea, and

22:Winterbotham et al. K-4 (no date) 1944 MS37 Senegal MS37
wolof MS30
Trarza MS24

S 175 167 reaching St. Louis. This disaster has been made famous by the celebrated painting of Théodore Géricault.

[648] As St. Louis was in British hands until the early months of 1817, Schmaltz established his capital at Cape Verde.

The first settlers from France were sponsored by the Société Coloniale Philanthropique, and consisted of 175 men, 20 women, and 10 children. Their intention was to settle in the Cape Verde peninsula. This was against the advice of Schmaltz, who thought that part of the country unsuitable. The settlers landed at Goree in April 1817, shortly afterwards crossing to the mainland; but, owing to the attitude of the natives, they were unable to obtain land or labour. At the end of two months there were only six left on the peninsula: the remainder had been repatriated to France or had retired to St. Louis, Goree, or the Gambia. Schmaltz was able to prevent the philanthropic but misguided society from sending eighty more colonists to the same place.

W [175] [648] Attempts to establish European colonists met with more success on the Senegal. In 1819 Schmaltz had no difficulty in obtaining from the chiefs of Oualo all the land he wanted on the left bank of the river. S [648] [241] In return, the chiefs were given annual subsidies (*coutumes*) amounting to some 10,000 francs. This arrangement was to lead to endless trouble. Cotton, coffee, indigo, and tobacco were to be the principal crops, and colonists were not lacking.

T [175] [648] The natives of Oualo were peaceable, but the Trarza and Brakna Arabs, who claimed to be suzerains over Oualo, were hostile. At first they raided the colonists, but later they were defeated by troops from St. Louis in a number of skirmishes. Eventually the French recognized nominal Arab suzerainty, and the colonists were allowed to S [648] develop their holdings in relative quiet. Nevertheless, the Trarza Arabs continued to give trouble until 1835, when, after a series of defeats, they entered into a treaty by which they abandoned all S [712] claims to Oualo. The French armed post of Dagana was built for the protection of the settlers, and an experimental station was started at Richard Toll for their instruction. The French Government S [654] [24] supplied seeds and implements and paid a bonus on crops, and some forty European plantations were established. At first they seemed to succeed, but the climate, the labour difficulties, and the hostile attitude of the natives combined against them. In 1830 the home government withdrew its subsidy, and the plantations were soon abandoned. Since that date the French, while not discouraging European enterprise, have relied for agricultural development principally on the native farmer.

22:Winterbotham et al. K-4 (no date) 1944 M837 Senegal MS 37

near the Senegal river, the Fulani in the centre of the colony, and the Mandingos in the east of it.

The District of Dakar

The 66 square miles of the District of Dakar contain 126,929 persons; but the figures for density per square mile mean even less than elsewhere, since most of the inhabitants live in the town itself.

In 1937 there were 118,459 natives and 8,470 Europeans, of whom 6,728 were French. This was about a quarter of the total of Europeans in the whole Federation.

INLAND TOWNS

BAKEL (14° 52′; 12° 24′ W.) Population, 2,103. Provincial headquarters. Medical post. Landing-ground. Regional School. Garage. Daily market.

Bakel is on the left bank of the Senegal (Plate 83) where the river passes between cliffs some 17 miles below the entrance of the Falémé. It is a local market for gum, ground-nuts, grain, gold dust, hides, and ostrich feathers. Most of the inhabitants are Moslems.

By river it is 531 miles from St. Louis and 84 miles from Kayes, and there is a fortnightly steamer service when the water permits. By colonial road Bakel is 386 miles from St. Louis, 93 miles from Matam, and 32 miles from Kidira. A bus service connects all these places. The river can be crossed by ferry, and from the Mauritanian bank a poor track leads to Sélibaby (32 miles).

BAMBEY (14° 40′; 16° 25′ W.). Altitude, 59 feet. Population, 4,209. Mixed Commune. Dispensary. Police station. Meteorological station. Landing-ground. Garage. Agricultural experimental station. Daily market.

Set in the midst of an area of dense population, Bambey is a prosperous market town. The main product of the locality is ground-nuts, and large quantities of these are put on the train each year. They also form the chief speciality of the agricultural experimental station.

Communications. By railway Bambey is 77 miles from Dakar, 33½ miles from Thiès, 17 miles from Diourbel, and 319 miles from Kidira. It is on the intercolonial road, being 49 miles from Thiès and 16 miles from Diourbel. A colonial road goes almost due south to Fatik (27 miles). There is a daily bus service (p. 473) to Fatik, Foundiougne, and Kaolack.

22: Winterbotham et al. K-4 (no date) 1944 MS37 Senegal MS 37

The electric power station has a gas-engine plant that burns the residue from ground-nut presses. 36 [377]

Communications. Diourbel is the railway junction for Routes 3 and 4. By the former it is 50¼ miles from Thiès and 302 miles from Kidira, and by the latter it is 31 miles from Touba. The intercolonial road leads westwards to Thiès (65 miles) and Dakar (109 miles) and south-eastwards to Kaolack (40 miles), Tambacounda (230 miles), and Nayes (351 miles). Colonial roads go north-eastwards to Dahra (73 miles) and Dagana (162 miles) and south-westwards to Fatik (25 miles) and Kaolack (53 miles). [496] [491]

LOUGA (15° 37′; 16° 16′ W.). Altitude, 128 feet. Population, 4,390. Mixed Commune. Provincial headquarters. Medical post. Barracks. Police headquarters. Landing-ground. Regional School. Power station. Garage. Race-course. Agricultural experimental station and farm school. Daily market. [131] [162] [654]

Louga is the scene of the most important cattle market in the whole colony. It is this that has made it a route centre. Other local products are ground-nuts, gum, and millet. Administratively, Louga is the headquarters of the province of the same name and also a military headquarters. [438]

Electricity is supplied by an oil-driven plant. [377]

Communications. Louga stands at the junction of railway routes 1 and 2, being 119 miles from Dakar, 44 miles from St. Louis, and 81 miles from Linguéré. It is on the intercolonial road from Dakar (121 miles) to St. Louis (47 miles). A colonial road runs eastwards across the colony to Dahra (59 miles), Linguéré (84 miles), and Matam (242 miles). There are also minor roads and tracks. [496] [491]

PODOR (16° 35′; 15° 02′ W.). Population, 3,168. Provincial headquarters. Medical post. Emergency landing-ground. Regional School. Garage. Daily market. [131] [162]

This riverside town is chiefly important for gum arabic. The gum is brought by the Arabs, sold in the market, and shipped down the Senegal to St. Louis. [439]

Communications. By river Podor is 178 miles from St. Louis and 437 miles from Kayes. Throughout the year the Messageries Africaines run a fortnightly service to and from St. Louis. From July to January the boats also go upstream as far as Matam (234 miles) and in August and September to Kayes. Podor is on the colonial road, being 135 miles from St. Louis and 288 miles from Nayes. There is a ferry across the river to connect with tracks to such Mauritanian [487] [505] [491]

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redemption money. During 1936 official figures showed 1,000 labourers working under written contracts for private concerns, while 31,800 were working on verbal agreements. For public services there were only 20 working with written contracts and 8,900 without. These figures apply only to regular employment, and they take no account of casual labour of any kind.

The fertile provinces of Baol and Sine-Saloum annually attract thousands of immigrant labourers from French Sudan to grow ground-nuts. It is estimated that, in some years, as many as 60,000 Sudanese labourers (*navétanes*) cross the border, encouraged by cheap fares on the railways and advances of pay from the Chambers of Commerce. In 1932 these advances amounted to 300,000 francs. On their arrival they do not work for daily hire, but each labourer takes up a plot for the season. The landowner provides the seeds, and also board and lodging for the labourer. In return the labourer works on the owner's plot for two, three, or four days a week. At the close of the season the proprietor takes either one-tenth of the crop or double the quantity of seeds that he supplied, leaving the rest of the crop to the labourer. Most labourers return to their homes at the end of the harvest, but occasionally they stay on till they have accumulated the sum they set out to acquire.

Agriculture

The first director of agriculture of Senegal may be said to have been Richard, one of the survivors of the *Méduse*. Under him experimental gardens were founded at Richard Toll about 1820. These are still in existence. The present organization of the Department of Agriculture is laid down by an order of 22 January 1932. Working in close contact with local administrative officers, it manages experimental gardens and farm schools, gives information and instruction to farmers, conducts campaigns against agricultural pests, and organizes agricultural shows. The Department has a laboratory at Hann and an experimental station at Bambey. This was opened in 1924 and is devoted principally to the study and improvement of ground-nuts. Besides these institutions the Department owns various smaller stations for study, experiment, and instruction.

Forestry. The Department of Agriculture had charge of forestry until an order of 10 February 1937 created a separate Forestry Department and divided the colony into four forestry districts (*inspections*), with headquarters at St. Louis, Thiès, Ziguinchor, and Tambacounda respectively.

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647 656 *Produce Inspection.* Produce inspection is entrusted to a board nominated by the Chambers of Commerce, but the Government keeps a tight control by exercising a veto on all important appointments to its staff. The Board's inspectorate has very wide powers of inspection over produce, whether destined for local consumption or for export. No produce to which inspection applies can be sent out [439] of the colony without a certificate of purity.

For this inspection a special tax of 5 francs per ton on ground-nuts [651] and palm kernels, and 20 francs per ton on rubber, is imposed on produce intended for export.

456 654 [647] *Native Provident Societies.* There are 14 Native Provident Societies. Bignona and Ziguinchor have combined, but otherwise there is one to each province. In 1937 they had 1,200,000 members, whose annual subscriptions varied from 2·50 francs to 5·00 francs each, and their expenses were some 25,000,000 francs. They supplied over 44,000 tons of ground-nut seeds to their members.

In earlier days the Sine-Saloum society imported stallions from [232] the Argentine for the breeding of mules, and in 1932 the societies devoted nearly 250,000 francs to the purchase of motor vehicles. In cattle-breeding districts they supply breeding stock and improve water-supply and pasturage. By 1933 it was estimated that the societies had sunk over 1,200 wells, while the society of Thiès had [312] constructed a barrage for irrigation purposes.

In addition to strictly agricultural activities, the Senegal societies [426] help their members by advances of cash, which are made not only to meet failure of crops, but also in cases of individual accident or illness.

Mining

656 316 At the end of 1937 the following permits were in force:

Personal licences		4
The Occupation System		
Exclusive licences	10	
Mining licences	32	
Concessions	16	
	—	58
Total		62

Education

871 1197 The first attempts to educate the natives of French West Africa were made in Senegal, and they were also remarkable for being instituted, not by missionaries, but by the Crown. Colonel Schmaltz

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In 1927 apprentice courses in woodwork and metalwork were started in St. Louis and Kaolack by the Public Works Department for selected schoolboys between the ages of 13 and 16 years.

There is a number of educational institutions in Dakar of a higher grade than primary. These are the responsibility of the Federal Government and have been described in Volume I.

Health

Senegal is divided into thirteen medical districts, each of which is intended to be under the supervision of a European medical officer. There are 17 medical stations, each under a native auxiliary. There are also 16 maternity centres and 117 posts visited once a week by a medical officer.

In 1937 Senegal and Dakar had 3 major hospitals and 34 minor hospitals and dispensaries. These provided 394 beds for European patients and 1,805 for native. There were 80 European medical officers, 31 native auxiliaries, 30 midwives, 124 male nurses, and 21 female nurses.

In addition there were four travelling parties (*groupes sanitaires mobiles*). One of these specialized in fighting sleeping-sickness in the Casamance Territory, and the other three were concerned with more general sanitary and prophylactic measures.

The Pasteur Institute at Dakar, a federal concern, is justly famous. Some medical work is done by missionaries. Unofficial committees of the Croix-Rouge are concerned with infant welfare at Dakar, Diourbel, St. Louis, and Tivaouane.

In 1937 Senegal voted 12,000,000 francs for medical services and Dakar 11,000,000 francs.

10. PORTS.

St. Louis (16° 01′; 16° 30′ W.). Population, 30,586, including 1,231 Europeans. Colonial capital of Senegal and of Mauritania. Full Commune. Headquarters of the province of Bas Sénégal. Custom-house. Law courts. Chamber of Commerce. Hospital and dispensary. Army headquarters and barracks. Police headquarters. Belgian Consulate. Meteorological station. Landing-ground. Wireless station. Lycée Faidherbe. École des Fils des Chefs et des Interprètes. Higher Primary and Technical Schools. Protestant and Roman Catholic missions. Bank of West Africa. Power station. Prison. Hotels. Garages. Race-course. Botanical gardens. Experimental plantation. Daily market.

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[ST. LOUIS]

206 *Wireless.* The wireless station is to the south of Guet N'Dar.

505 [648] *River.* Above Faidherbe Bridge the river is closed to all vessels not flying the French flag. Boats drawing 10 feet can ascend to Podor all the year round, and in the rainy season they can reach Kayes (Vol. I, p. 367). Table V shows how greatly river traffic on the Senegal has declined in recent years.

TABLE V. *Tonnage of Goods from Kayes*

[497] [494]

	1928	1929	1930	1934	1935
Sent by rail or road	9,545	9,535	11,456	5,269	6,224
Sent by river	2,520	5,815	3,425	313	260

Shipping. There are no sea-going ships calling regularly, but the Messageries Africaines and the Messageries du Sénégal run services up-river.

36 [131] [162] [489] [712] DAKAR (14° 39′; 17° 25′ W.). Population, 80,052, including *c.* 6,000 Europeans. Capital of the Federation and Headquarters of the District of Dakar. Full Commune. Custom-house. Law courts. Chamber of Commerce. Pasteur Institute. Hospitals. Naval base and dockyard. General Headquarters of the army in French West Africa. Police headquarters. British Consulate-General. Belgian, [648] Brazilian, Czechoslovakian, Danish, Eireann, Greek, Italian, Netherlands, Norwegian, Swedish, and Swiss Consulates. Argentine, Finnish, Spanish, and Uruguayan Vice-Consulates. Meteorological station. [654] [508] Airport and seaplane base. Wireless stations. Colleges and schools. Protestant churches. Roman Catholic Vicariate Apostolic of Guinea and Vicariate General. Bank of West Africa. Banque Commerciale Africaine. Crédit Foncier de l'Ouest Africain. Banque Belge de l'Afrique. Power station. [697] Prison. Public library. Hotels. Garages. Railway workshops. [498] Cinemas. Race-course. Sports stadium. Botanical gardens. [654] Agricultural experimental station. Daily market.

361 Dakar (Fig. 54) is approximately 2,600 miles distant from Southampton, from Cape Town, and from Rio de Janeiro. It is, therefore, well placed for taking a share in the trade of the South Atlantic, and it [433] is small wonder that it has become the third port in the French Empire, being surpassed only by Marseilles and Le Havre. It is, moreover, of the first importance strategically.

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sixth crop of Africa, and 43 per cent. of the total continental production comes from Senegal. The two main groups cultivated are the 'runner' and the 'erect'. The Rufisque and Cayor varieties, both runners, are those grown generally here and also in British West Africa. The method of cultivation is described in Volume I, p. 321. Ground-nuts were originally grown as a staple native crop, but the industrial demand for vegetable oils, coupled with the development of transport facilities, opened up a world market for them. Extra labour for the harvest is provided annually by seasonal immigration from French Sudan, French Guinea, Portuguese Guinea, and the Gambia. In 1938 the number of outside workers was 69,757. Of these, 56,743 went to the Kaolack area, between 1,000 and 3,500 to Sedhiou, Ziguinchor, Kolda, Tambacounda, and Diourbel, and the remainder to Thiès and Linguéré.

There are numerous shelling factories. Early in 1939 new ones were opened at Kaolack, Ziguinchor, and Koungheul.

In 1938 nearly 2,000,000 acres were under cultivation and the experimental station at Bambey distributed 5,414 tons of selected seed. In 1939 7,382 tons of seed were sent out, with a corresponding increase in acreage.

During the British blockade of French West Africa after the fall of France in 1940, ground-nuts were converted into fuel oil. If this practice has been proved worth continuing after the war, cultivation may be greatly extended.

Sisal. Sisal originated in Mexico, being named after the port of Sisal in Yucatan province, and it was introduced into Senegal at the end of the nineteenth century. The species grown are *Agave rigida sisalana*, *A. rigida elongata*, and *A. rigida zapupe*. The rigid leaves containing the fibre are about 4 feet long and are harvested biennially from the fourth to the eighth or tenth year. When a plant has finished producing it shoots up a tall flower stem, with bulbils or buds on the end, and then withers.

The preparation of stem and leaf fibres is lengthy. First the fleshy tissue encasing the fibre is scraped away, and then the fibre is washed, hung out to dry, and brushed. It is now ready for grading. Next it is combed into a continuous sliver of untwisted rope. The final process is the drawing and twisting of the sliver to a uniform thinness for spinning into a rope that is particularly resistant to sea-water. The largest plantation is in French Sudan, and stretches for 12 miles along the bank of the Senegal near Kayes. Other smaller ones are in Tambacounda and on the Cape Verde peninsula. There is oppor-

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the former provide mounts for the tirailleurs. Apiculture has increased in recent years, and in 1939 over 59,000 beehives were installed in the provinces of Bakel, Baol, Kolda, and Sine-Saloum.

Experimental Stations

There are agricultural experimental stations at Bambey, Dagana, Kolda, Louga, and Tambacounda, nurseries and botanical gardens at Hann, Richard Toll, and Sor, a livestock experimental station at Makhana (11 miles north-east of St. Louis), and farm schools at Diorbivol and Soringho (near Matam). The stations at Bambey and Louga specialize in ground-nuts, those at Kolda and Tambacounda in sisal, and that at Dagana in gum and Borassus palms (Fig. 8).

13. COMMERCE AND FINANCE

Commerce

Official statistics combine Senegal and French Sudan under one head for detailed figures, and, in addition, the general summary of *Commerce Spécial* combines them with Mauritania. These three colonies account for more than 50 per cent. of the total trade of the Federation, and of this percentage Senegal undoubtedly provides a very large proportion.

The Balance of Trade. The value of the imports commonly exceeds that of the exports, but in 1938, the last year for which statistics are available, imports were valued at 1,016,837,000 francs and exports at 1,725,649,000 francs.

Firms. The principal firms are Chavenel et Fils, the Commerce Africain, the Compagnie Française de l'Afrique Occidentale, Dèves et Chaumet, Maurel et Prom, the Nouvelle Société Commerciale Africaine, Charles Peyrissac et Cie., the Société Commerciale de l'Ouest Africain, Soucail et Cie., and Vézia et Cie.

Exports. The principal item of export is the ground-nut. The first export of ground-nuts was made from Rufisque to Rouen in 1840, and since 1844 there have been regular shipments to Marseilles. In 1936, 393,485 tons of ground-nuts in shell (28,452 tons from French Sudan) and 60,448 tons of shelled ground-nuts (4,429 tons from French Sudan) were exported, respectively worth 351,674,905 francs and 73,384,546 francs. In 1937 both quantities rose, the nuts in shell to 517,322 tons worth 431,746,036 francs and the shelled nuts to

/117 cont./

244 433 [134 242] are much less suitable for this crop because of their composition which gives a certain acidity to the nuts, thus rendering them less suitable for industrial use in /118/ the production of fine oils. There have been attempts to correct this defect and to improve the quality of Bas-Saloum by means of seed selection and by the continued addition of seed from Sine; this has not yet been successful.

Fallow lands, however, are not lacking in the other regions of the circle.

There are 230,000 hectares planted in groundnuts. This figure represents 0.85 hectares per inhabitant. This is about 1/11 of the total area of the circle.

In 1914 this crop extended over 70,000 hectares. It has thus tripled.

The production, which was 75,000 tons in 1918, is about 140,000 tons today. It has doubled in 10 years. It amounts to almost a third of the harvest of Senegal.

One can determine the production of groundnuts in the circle since 1921 by the following figures (in tons):

Years	1921	1922	1923	1924
Tons	80,000	90,000	110,000	125,000
Years	1925	1926	1927	
Tons	135,000	145,000	140,000	

[167 242] These results are due in part to the increase in the population by the influx of foreign workers into the circle, who came to settle there or who hire themselves out, and in part to the selection of seeds and their distribution in ever increasing quantities.

[654 441 474] The credit for this work is to be given to the administration, the Société de Prevoyance /Welfare Society/, and the Chambre de Commerce of Kaolack, whose combined efforts have made it possible to achieve such a fine result.

/118 cont./

244 433 242 There is no doubt, however, that the yield per hectare is diminishing and that on much of the land today it is no more than 500-600 kilograms per hectare, instead of the 700-800 kilograms, and even 900, as has been seen sometimes in Sine. The land is becoming exhausted as a result of the lack of fertilizer and the absence of crop rotation. Two other factors likewise come into play: the too primitive native methods of cultivation and the inadequate selection of seeds. The native cultivator continues to work his land with the [412] hilaire, a kind /Pl. II appears here/ /119/ of spade with which he contents himself with scratching the soil. He thus reduces his work too much; he does his dressings badly or inadequately.

It has been demonstrated by the experiments made by the Compagnie française de l'Afrique Occidentale at Latmingué that with mechanical farm implements one could easily double the yield per hectare. On newly cleared land and with these methods, the yield has never been less than 1,000 kilograms and at times has reached 1,500 kilograms per hectare. It is necessary to persuade the native that he will profit by working the land with a little better equipment. The agricultural [654] services are working at this, and it is to be hoped that the more modern cultivation methods will double the yield. This is a critical problem.

243 433 Millet. Millet is likewise a crop on the road to progress. The types cultivated are: small and great millet, or, according to their native names, souna, sanio, bassi, fehla.

In 1927, the cultivated area was 240,000 hectares, with a total production of 119,000 tons, a little more than the needs of the population. In 1925, for a production of 80,000 tons, the population had sowed 210,000 hectares. The surplus production is consumed in the regions bordering Sine-Saloum.

Rice. Different varieties of rice are cultivated, especially in Sine and Bas-Saloum, where the annual rainfall is greater and where the soil is suitable for this crop. One can estimate that 15,000 hectares are planted to rice with a total

/119 cont./
433 [243] production of about 14,000 tons, which are entirely consumed on the spot.

[244] [474] Manioc. Manioc is the crop grown in some plantings around the villages. The native Société de Prevoyance distributed many cuttings in most of the cantons in 1925.

About 5,000 hectares are planted to manioc, with a production of 25,000 tons of fresh manioc.

[243] /120/ Maize. Maize is not planted everywhere. It is cultivated in Bas-Saloum and in Sine, a little in Saloum. There are 2,000 hectares of maize and 2,000 tons of production.

[244] Beans (niébés). The bean called "niébé" is planted on about 15,000 hectares, yielding a harvest of 7,000 tons.

Production, however, remains stationary, because the plant is attacked by various insects (weevils).

[245] [654] Bananas. Two banana plantations, established by the administration, exist at Sangako and Bani in Bas-Saloum. They could be multiplied in this region.

[249] Sugar cane. This product is not cultivated very much -- the soil is not suitable -- with rare exceptions.

[248] Cotton. Native cotton is cultivated only in small stretches. This crop takes up 700 hectares of land.

[249] Indigo. The region that is the principal producer of indigo is Bas-Saloum. This crop has tended to increase for the past several years.

[314] Kapok. The kapok tree lives in the wild state. There are some in the cantons along the railroad (N'Gahaye-Gossas), but especially to the south, starting at Kaffrine and above all in Koungheul. The native does not harvest it or harvests it poorly. The circle could yield 100 tons of kapok, but it provides only 20 tons at the most, used locally or sold abroad.

/121 cont./

233 animals to drink. Nevertheless, cattle-raising remains a worthwhile enterprise, a herd doubling in three years.

[232] [654] [492] No serious attempt to improve the breed of cattle has been made by the administration.

Since the multiplication of automobiles, the horse has been somewhat forsaken. The breed is small, but sturdy.

/122/ As for sheep and goats, their rustic breed is resistant. This breeding does not require any care.

313 Forests. Forests cover a notable part of the circle. They must be protected because they are on the way to progressive disappearance as a result of the abuses of brush fires and systematic clearing by the native, wishing to increase his crops.

There is no methodical exploitation of the forests. The exploitation is confined to the cutting of palm trees for the production of charcoal. There still exist, however, some beautiful stands of hardwoods, especially of Gambia mahogany, or false mahogany, particularly in Bas-Saloum.

To the east, between Kaffrine and Koungheul, stocks of small bamboos exist, especially in the humid depressions. [342] These bamboos are cut by the natives who make panels out of them, called "crintings," to serve as closings or veranda partitions. [435] The price of these panels, from two to three meters long, varies between 15 and 25 francs.

316 Quarries. There are many laterite quarries, exploited for the most part. The stone is not as hard as at Rufisque or at Dakar.

317 433 Salt marshes. There is industrial exploitation of the salt marshes at Kaolack. The Société des Salines of Sine-Saloum has exploited the salt marshes at Diorana since 1915. The region of the Saloum is very fortunate from this viewpoint. The constant evaporation of the water of this arm of the sea and its many branches gives the liquid mass a degree of saturation much higher than that of the ocean water.

/126 cont./

874 461 young people are inclined to seek our courses which prepare them for officialdom. The elite wishes to be instructed doctorally. It disdains manual trades. It is this state of mind that must be changed. Craftmanship is dying out. The governor of Senegal, under the over-all supervision of the governor-general, has understood this. The vocational courses in the capital of the colony, Saint-Louis, have been revised and improved. Agricultural schools have been established. More must be done. It is necessary to add a vocational workshop to each regional school and even to some of the primary schools. The child should become familiar -- before leaving school -- with the handling of the hammer, the chisel, and the plane; he should know how to use a shovel, spade, and rake. All of these skills should be lifted up out of disrepute, which has no reason for existing. Manual work must be put on an equal footing with intellectual work. We need good workers even more than good writers.

/127/ It is the duty of the administration to prepare the younger generation for the task that awaits them.

● 654 474 244 Agricultural mutuality. The Société de Prevoyance. Within this order of ideas, and in order to develop a spirit of mutuality and a sense of foresight among the natives, the administration has created, like Algeria, native welfare and mutual loan societies. A society of this type has been operating in Sine-Saloum for many years. Its founding goes back to 1907. Its beginnings were modest. At first it brought together 718 cultivators. By 1910, the number of members of the society reached the figure of 1,567. This was still very few. The idea had borne fruit, however. The administration soon brought in the majority and then the totality of the cultivators.

[652] In July 1907, at its founding, the governor of Senegal put at the disposal of the administrator of the circle the sum of 20,000 francs in order to promote this effort for mutuality.

Thanks to this advance, 99,700 kilograms of groundnut seed was loaned to the 718 first adherents, who returned them in kind after the harvest with an interest of 30%.

/127 cont./

654 474 244 [251] From 1907 to 1910, storehouses were built to shelter the seeds. In 1910, these storehouses were multiplied in order to be more within the reach of the borrowers. On December 6, 1910, a decree of the governor of Senegal approved the definitive statutes of this society. The latter, on the basis of the experience of several years, have just been supplemented and revised.

The society of Sine-Saloum has 19 sections distributed throughout the circle.

As early as 1911 it had 160,000 members, and its cash on hand amounted to 139,499 francs. Its storehouse stock was 317 tons of selected seed.

Today, the society has property valued at more than 1 million. It has an annual income and expenditure budget of 5 million, including the value of the seeds which it keeps /128/ in its storehouses for the loans that it grants to its members for reimbursement in kind.

Since it demands an interest of 20%, it very rapidly increases its stock of seed. Thus, in 1928 it was holding more than 5,000 tons of seed. By 1929, it will have 7,000 tons. This is the precious guarantee for a fruitful harvest.

[242] Because all of this seed is carefully selected by the native chiefs under the control of the administrator, with methodical rigor. Although some chiefs are less strict in the selection, the majority understand their role. In the cantons of Diokoul Gandiaye, Kahone, Birkelane, and in those of Sine, Sokone, Sanghako, Koungheul, and Kaffrine, the seeds are sorted one by one, and only the shells with two nuts are accepted.

The cultivator quickly yields to these requirements, because he has recognized the necessity for them.

These loans are made in the month of June, before sowing time. They are repayable in kind in the month of December, after the harvest, with an interest of 20%, the said interest likewise payable in kind.

No defaults have been reported. The loans are for two hectoliters per cultivator.

/128 cont./

654 474 In order to enjoy these advantages the society member pays an assessment of one franc per year.

244 [731] He can also request and obtain loans of food, rice, or millet, if he is justified by a case of great necessity: scarcity as a result of an unfortunate or calamitous event.

[424] Finally, since last year, he has been able to obtain loans in money on the condition of certain guarantees. These loans are granted for cultivation, and also for the improvement of his agricultural equipment, or for starting or enlarging his herd. These loans may amount to as much as 5,000 francs and are to be paid back within several years.

654 474 In 1927, the members numbered 240,000.

[251] [343] [312] The society has 30 storehouses, more than half of which are built out of permanent materials: laterite stones or cement.

/129/ It has utilized its resources to make wells out of reinforced concrete in order to procure for the inhabitants the potable water necessary for their needs and for the needs of their animals.

It gives bonuses to the cultivators who exhibit the best harvests. It also awards bonuses for the capture of animals harmful to agriculture.

The work accomplished is remarkable.

[244] The increase in the production of groundnuts in the circle is due to the Société de Prévoyance, under the control of the administration.

In it, commerce has a valuable organization whose usefulness it recognizes and whose incontestable and uncontested services it moreover appreciates.

312 The water problem. Wells. The serious question of water presents itself in the circle as it does everywhere in Senegal. The economic life of the region depends on the water supply of its inhabitants.

In order to prevent the danger of a water shortage, it has been necessary to dig wells. The séanes, natural reservoirs or pockets dug by man, were too small in number. They received rain water, but their volume was limited, and a few weeks sufficed to empty them after the last rainfall.

/129 cont./

312 The native digs wells. But potable water is sometimes reached at great depths. As a result, the wells that are not shored up collapse, or, even if shored up with wooden boards, landslides are produced. The wells are choked up, and it is necessary to do the work over again.

312 653 In 1904, Captain Friry of the Engineers was put in charge of the study of this problem. This officer made numerous soundings, dug experimental wells, and adopted a system of reinforced concrete tubes built gradually as the hole was deepened, which assured both great safety and great rapidity in the work. A movable shaft, with a diameter slightly smaller than that of the well, makes it possible to isolate, in the layer of aquiferous sand, a volume of water sufficient for drawing.

/130/ Captain Friry dug a certain number of them. He trained well-digging teams. They consisted of European and native personnel. The undertaking was tediously long, because it was sometimes a matter of going 70 to 80 meters deep. At times it was necessary in the end to go through a very thick layer of white and compact clay before reaching the water; it is true that the water rose very high in the well, but the work had to be abandoned in several places, the work becoming impossible at a depth of about 80 meters due to the lack of ventilation equipment. There was also the disagreeable surprise of coming upon a pocket of salt water.

In order to avoid these inconveniences, the natives were urged to dig wells without masonry wherever they could, and a promise was made to them that a reinforced concrete well would be built for them next to their own well whenever they found a good supply of water at an acceptable depth.

This promise, made in 1905, was not kept.

[474] [654] Fortunately, the Société de Prévoyance, created two years later, was able to include in its program as early as 1910-1911 the construction of reinforced concrete wells by the Friry system. A public works supervisor, M. Denis, who had worked under the direction of Captain Friry, was hired for this task under the direction of the administrator.

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Foreword

A curious figure, Christophe Paulin de la Poix, Chevalier de Fréminville, captain of the frigates of the king. W 114

There were three different persons in him: the sailor, the writer and natural scientist, and the eccentric (his custom of dressing as a woman caused him to be nicknamed "la chevalière").

Born in 1787, he served under Napoleon, then under the Restoration. It was in 1822 that he made the voyage to Senegal aboard "la Néreide" which is reported here.

Unfortunately we have only extracts from the memoirs of the Chevalier; the picturesque recollection of Dakar that he relates to us makes us regret that we do not possess the complete work, but we do not know who has it.

We hereby thank the Librairie Champion for having kindly authorized us to reproduce the following pages (pages 107-125) taken from the Mémoires du Chevalier de Fréminville (1787-1849), collected by E. Herpin, Paris, Champion, 1913. We have added to it some short notes intended to clarify the text. (N. D. L. R.).

/42/ On the fourth of April (1822), in the morning, the sea had manifestly changed color. We made ready to strike for the coast of Saint-Louis, a little to the north of the Senegal River. We did not reach it until the next day. W 123

We were scarcely at anchor when the lighter la Cauchoise, commanded by the chevalier de Missielly, post lieutenant /lieutenant de vaisseau/, passed our stern. Its whole crew, gathered at the side, saluted us three times with the shout of "Long live the King!" We returned the salute with three similar shouts.

Not until the seventh did the state of the bar permit a pilot from Saint-Louis to come on board. This pilot brought us, on behalf of M. Roger (1), governor of the colony, the most S 505

1. Baron Roger, governor of Senegal from 1822 to 1827, a

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22: Poix--2 G.T-5 (1822) 1955 MS30 Wolof MS30
Senegal MS37

/42 cont./

remarkable man -- in spite of the estimation of Fréminville. Aided by the gardener Richard, he gave a vigorous push to agronomic research in Senegal.

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singular letter. M. Roger, ex-barrister, then housing administrator, and subsequently having become -- nobody knows how -- governor, was asking us what our tonnage was, the nature of our cargo, the name of our firm...

Wanting to laugh at his expense, our commander answered him that the frigate of the King of France, la Néreide, was sent from Brest by M. Louis, citizen of Paris, foremost merchant of the kingdom; that she carried a load of powder and balls, as well as 325 soldiers destined for the colony; that therefore he requested him to send us as soon as possible some small boats in order to transport our passengers to land.

W 123

The debarkation of our troops dragged on until the fourteenth under the most deplorable conditions.

Just at that date 130 men arrived for us, coming from Africa and destined for Gorée. They were commanded by M. de Lâge, battalion chief and chevalier de Saint-Louis. This officer was accompanied by his wife, his son, and his daughter. The latter, 15 years old, was very pretty.

W 439

We also received a multitude of parrots, parakeets, and monkeys brought by Negroes, and everyone amused himself by buying some of them. As a result, there was an unendurable concert on board.

Much more welcome than all this menagerie, abundant provisions of oranges, lemons, coconuts, and bananas were also brought to us by a schooner which arrived from Cape Verde.

We got under way on the eighteenth. All day long we hugged the shore of a low, sandy land. Night brought us a very strange concert. It was given for us by lions who were bathing in the waves near the shore. In the darkness of the evening these roars reminded one of the noise of thunder, but had a much more curious and frightening character.

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